

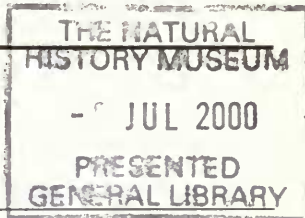
# A new species of *Heisteria* (Olacaceae) from Mesoamerica

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**SYNOPSIS.** A new species of Olacaceae from Mesoamerica, *Heisteria povedae*, is described and illustrated. Its range of variation is described and relationships to other Mesoamerican members of the genus briefly discussed.

While preparing treatments of the family Olacaceae for *Flora Mesoamericana* and the *Manual de plantas de Costa Rica*, it became clear that the widespread species treated as *Heisteria macrophylla* Oerst. in Sleumer's (1984) *Flora Neotropica* account of the family included at least two elements. The type of *H. macrophylla* comes from the area along the Río San Juan near the Costa Rica/Nicaragua border, and material from the lowland Atlantic slope forests matches the type quite well (see below). The majority of specimens identified as *H. macrophylla* are significantly different from the type, and despite being the most widespread component of *H. macrophylla* sensu Sleumer, do not have a name. We therefore coin a new name for this widespread, common species here.

***Heisteria povedae*** Q. Jiménez & S. Knapp, **sp. nov.** Type: Costa Rica, Guanacaste, Estación Cacao, Parque Nacional Guanacaste, 1100 m, 10°55'32"N, 85°28'02"W, 8 February 1995, A. Azofeifa 25 (INB!-holotype; BM!, CR!, F!, MO!-isotypes).

Fig. 1.

Frutices vel arbores parvae; ramuli valde alati albo-punctati vel striati, alis in caulibus maturioribus persistenibus; folia in statu sicco viridi-olivacea punctulata; fructus niger globosi nitidi leviter porcati; calyx fructifer patente ruber margine sinuatus; pedunculi fructiferi crassi.

*Shrubs or small trees*, 1–5 m; bark pale. *Branchlets* strongly angular, markedly flattened and strongly 2-winged, occasionally 4-winged, the wings persisting to older stems, pale olive green, often white striped. *Leaves* 6–20 × 2.5–6.5 cm, elliptic to narrowly elliptic, shape very variable even within a single collection, usually drying a very pale olive green, strongly pellucid dotted below, matte on both surfaces; venation drying bright pale yellow or white, all orders clearly visible; apex acuminate, occasionally acute; margins revolute, slightly undulate, paler; base acute to cuneate; petioles 0.5–1.1 cm, rugose and pale green along entire length. *Inflorescence* a few-flowered glomerule of 5–7 flowers; bracts glabrous, pale green; pedicels 1–2 mm. *Flowers* white, the buds ellipsoid; calyx cupuliform, the lobes c. 0.25–0.5 mm, either mere teeth from the calyx rim or more or less equalling the tube; petals c. 2 mm, glabrous within; filaments 1–1.5 mm, liguliform to petaloid. *Fruit* 7–9 × 7–10 mm, often wider than long, globose, strongly ridged and somewhat shiny, black; fruiting calyx 1.9–2.5 cm, unlobed, the margins sinuate, spreading or slightly cupping the base of the fruit, fleshy, red; peduncles 5–9 mm, very thick.

**COMMON NAMES.** Guatemala, Quezaltenango: 'arito de montaña'

(Standley 68338), 'palo de bastón' (Steyermark 33360); El Salvador, Ahuachapan: 'ojo de pava' (Sandoval & Chinchilla 281).

**ETYMOLOGY.** This species is dedicated to the Costa Rican botanist Luis Jorge Poveda, in recognition of his great knowledge of Costa Rican plants, and in honour of his many contributions to the knowledge and conservation of plants in Mesoamerica.

**DISTRIBUTION.** *Heisteria povedae* is endemic to Mesoamerica, occurring from Chiapas to Panama. It is generally found at middle elevations, (200–)800–1500(–2000) m, in lowland forest, premontane forest and occasionally in the oak forests of the Cordillera de Talamanca in Costa Rica. *Heisteria povedae* is more common on the Pacific slope, but some have been collected on the Atlantic slope. (Fig. 2).

**SPECIMENS EXAMINED.**

**MEXICO. Chiapas:** Palomeque, Mt. Ovando, 1400 m, 16 February 1969, Hernández M., R. 528 (MO, NY); Volcán Tacana, Unión, 1400 m, 17–23 March 1939, Matuda, E. 2787 (MEXU); La Grada, Escuintla, 12 August 1947, Matuda, E. 16807 (F); Cacaluta, Escuintla, 15 August 1947, Matuda, E. 16875 (F); Corcega, Pueblo Nuevo Com., 15 April 1948, Matuda, E. 17658 (F); Las Nubes, Mt. Ovando, 1150 m, 15 November 1949, Matuda, E. 18756 (F, MEXU); Arroyo de la Cuchilla, arriba de Finca Prusia (SW de Jaltenango), 1500 m, 22 February 1951, Miranda, F. 6965 (US); Mun. Acacoyagua, Mt. Ovando, trail to c. 5 km above Finca La Magnolia, 3 km N. of Los Cacao and 13 km N. of Acacoyagua on road to Olondrina, 1200–1500 m, 29 May 1985, Thomas, W. & Villaseñor, J.L. 3663 (MEXU, NY); near Rancho of Finca Prusia, Mun. Angel Albino Corzo, 2400 ft, 23 January 1968, Ton, Alush Shilom 3566 (F, MEXU, MO); along the Río Cuztepeques near Finca Cuztepeques, 2400 ft, 26 March 1968, Ton, Alush Shilom 3865 (F, MEXU, MO); Monte Ovando, 1950 m, 9 January 1987, Vázquez T., M. 3899 (NY).

**GUATEMALA. Chimaltenango:** lower and middle SW slopes of Volcán Fuego, above Finca Montevideo, along Barranco Espinazo and tributary of Río Pantaleón, 1200–1600 m, 20 September 1942, Steyermark, J.A. 52087 (F, NY). **Escuintla:** Finca Monterrey, S. slope of Volcán de Fuego, 1140–1260 m, 5 February 1939, Standley, P.C. 64570 (F). **Quezaltenango:** Finca Pireneos, below Santa María de Jesus, 1350–1380 m, 11 March 1939, Standley, P.C. 68199, 68338, 68396 (F); along old road between Finca Pireneos & Patzulín, 200–1400 m, 9 February 1941, Standley, P.C. 86950, 86959, 86992 (F); along Quebrada San Gerónimo, Finca Pireneos, lower S.-facing slopes of Volcán Santa María, between Santa María de Jesus & Calahuaché, 1300–2000 m, 1–2 January 1940, Steyermark, J.A. 33360 (F, NY); off Hwy. 95, c. 4 miles S. of Santa María de Jesus, W. side of Volcán Sta. María, 29 June 1973, Stone, D.E. 3492 (F, MEXU, MO, NY); Finca St. John of Mr Whitehead, c. 5 km S. of Santa María de Jesus, SE slopes of Volcán Santa María, 4300–5500 ft, 17 May 1966, Walker, J.W. 443 (F, NY, US). **San Marcos:** La Trinidad c. 2 km from Finca Armenia above San Rafael,

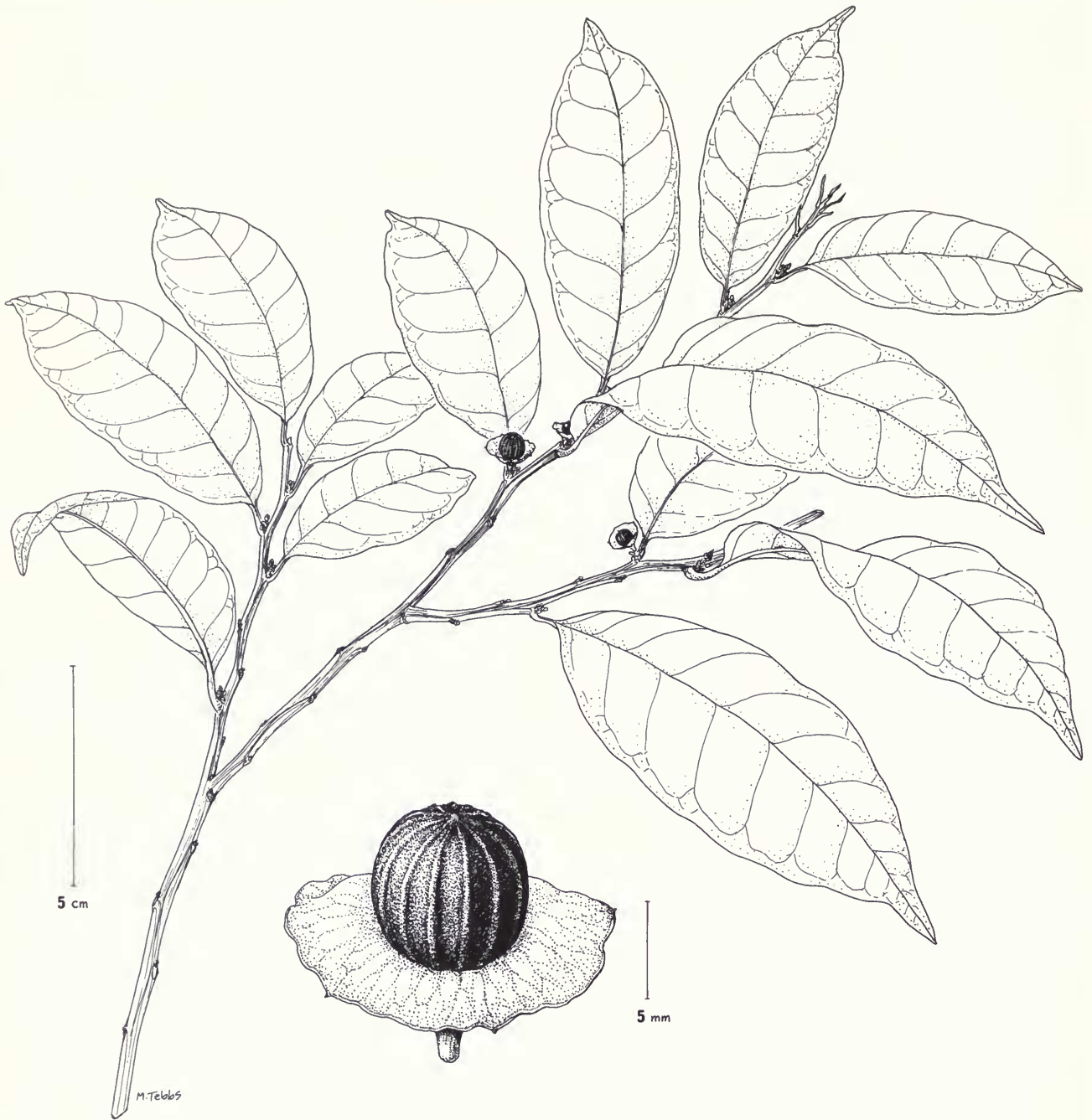


Fig. 1 *Heisteria povedae* (habit based on *I INBio* 149 (MO) & *Fuentes et al.* 67 (MO); fruit based on *Davidse et al.* 28398 (MO)).

1100–1250 m, 12 July 1977, *Croat, T.B.* 40873 (MO); above Finca El Porvenir on Todos Santos Chiquitos, lower S.-facing slopes of Volcán Tajumulco, 1300–1500 m, 7 March 1940, *Steyermark, J.A.* 37080 (F). **Sololá:** cercanías de Patulul, 240 m, December 1929, *García Salas, J.* 1418 (F); S.-facing slopes of Volcán Atitlán, above Finca Moca, 1000–1250 m, 20 June 1942, *Steyermark, J.A.* 47903 (F). **Suchitepequez:** SW lower slopes of Volcán Zunil, between Finca Montecristo & Finca Asturias, SE of Santa María de Jesús, 1200–1300 m, 1 February 1940, *Steyermark, J.A.* 35281 (F); Finca Moca, 3000–4400 ft, 10 January 1935, *Skutch, A.F.* 2109 (BM, F, NY, US). **Zacatepequez:** Acatepeque, 4300 ft, March 1892, *Donnell-Smith, J.* 2479 (US); Volcán de Agua, 9000 ft, November 1889, *Heyde & Lux (JDS)* 4446 (MO, NY).

**EL SALVADOR. Ahuachapan:** Mun. San Fco. Menendez, Hacienda San Benito, al N. de Campana (El Imposible), 13°49'N, 89°56'W, 23 February 1982, *Sandoval & Chinchilla* 281 (MO (B, LAGU)); Sierra de Apaneca, in region of Finca Colima, 17–19 January 1922, *Standley, P.C.* 20185 (F, MO, US).

**NICARAGUA. Boaco:** Cerro Mombachito, 4 km NE de Camoapa, 700–1000 m, 1 February 1979, *Grijalva, A. & Araquistán, M.* 60 (MEXU, MO); Monte Azul, San José de los Remates, 1000–1200 m, 12°38'N, 85°43'W, 12 February 1983, *Moreno, P.P.* 20309 (MO); NE de Mombachito, 11 May 1982, *Sandino, J.C.* 2829 (MO); upper SW slope of Cerro Mombachito, S. of road between Boaco and Camoapa, 900–1000 m, c. 12°24'N, 85°33'W, 3 October 1979, *Stevens, W.D. et al.* 14589 (MEXU, MO, NY); upper W. slope of Cerro



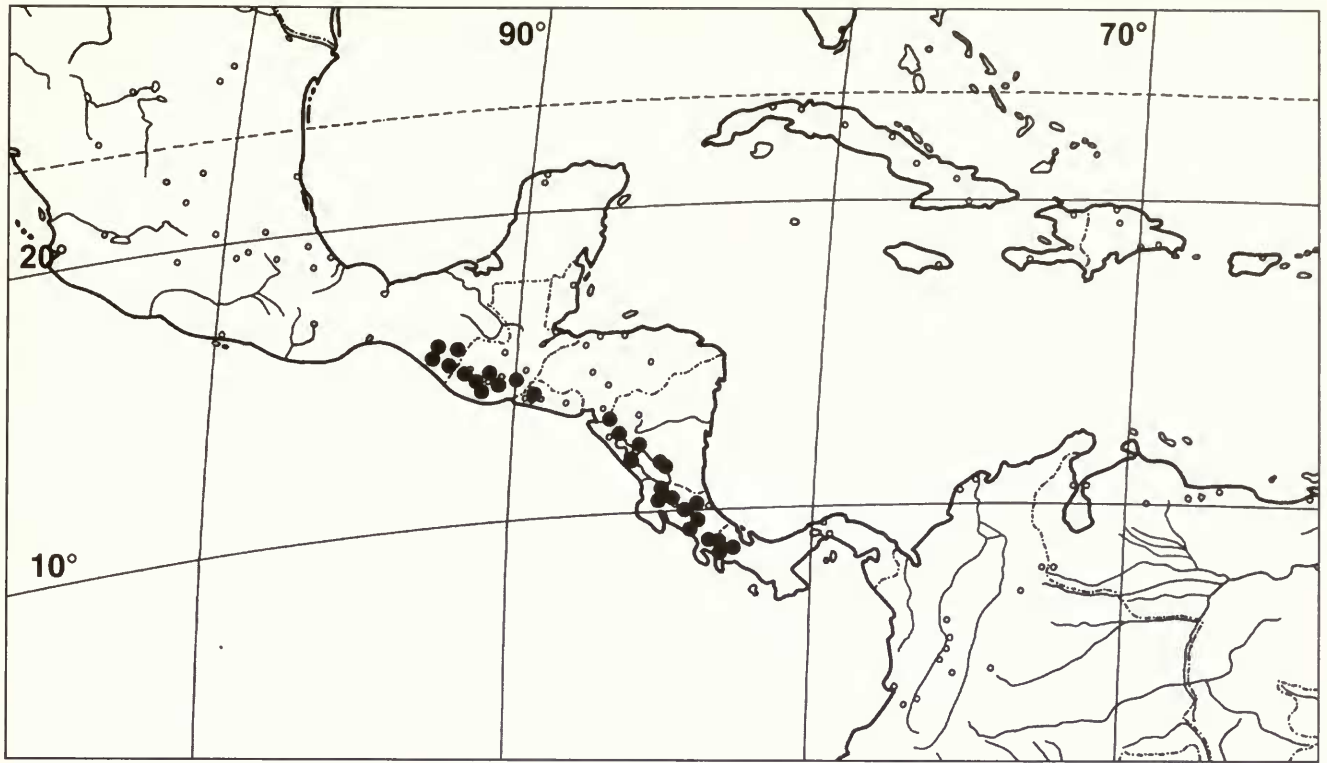


Fig. 2 Distribution of *Heisteria povedae*.

Mombachito, 900–1000 m, c. 12°24'N, 85°33'W, 8 October 1979, *Stevens, W.D.* et al. 14776 (MO). **Chontales:** Cerro Oluma, c. 3 km SW of Ciudad Cuapa, 700–740 m, 12°18'N, 85°20'W, 3 January 1984, *Grijalva, A.* et al. 3370 (MO, NY); Cerro Las Nubes, El Tamagás y Loma San Gregorio, c. 2 km al N. de Santo Domingo, 600 m, 20 January 1984, *Grijalva, A. & Ríos, D.* 3471 (MO); 4 km NNW of Cuapa, ridgetops and summits of Cerro Oluma, 700–775 m, 12°18'N, 85°23'30"W, 23 September 1983, *Nee, M.* 28445 (MO); Cerro Buenavista, 5 km N. of Cuapa, 15 July 1976, *Neill, D.A.* 634 (MO). **Matagalpa:** Santa María de Ostuma, Cordillera Central de Nicaragua, 1200–1500 m, 1960–1961, *Heller, A.H.* 61 (F); camino al Cerro La Carlota, a 2 km de la carretera al Tuma, 1040–1100 m, 12°58'N, 85°52'W, 5 March 1982, *Moreno, P.P.* 15656, 15699 (MO); Cerro Matapalo, 9 km de Matagalpa carretera a El Tuma, 1000–1100 m, 12°57'N, 85°51'W, 23 February 1983, *Moreno, P.P. & Robleto, W.* 20485 (MO, NY); El Trebol, 7 km al S. de Peñas Blancas, carretera a El Tuma, 800–900 m, 13°12'N, 85°39'W, 23 February 1983, *Moreno, P.P. & Robleto, W.* 20535 (MO); 6–10 km NE of Matagalpa, road to El Tuma, 1000 m, 14–16 January 1963, *Williams, L.O.* et al. 23840 (F, NY, US). **Zelaya:** Cerro La Pimienta number 1, summit and area adjacent, 900–980 m, c. 13°45'N, 84°59'W, 13 April 1979, *Pipoly, J.J.* 5108 (MO); c. 6.3 km S. of bridge at Colonia Yolania and c. 0.8 km S. of ridge of Serranías de Yolania on road to Colonia Manantiales (Colonia Somoza), 200–300 m, c. 11°36'–37'N, 84°22'W, 29–31 October 1977, *Stevens, W.D.* 4865 (NY); S. slope of Cerro El Inocente, 1000–1050 m, c. 13°46'N, 85°00'W, 8 March 1978, *Stevens, W.D.* 6741 (MEXU, MO, NY).

**COSTA RICA. Alajuela:** Monteverde, Peñas Blancas river valley, 800 m, 10°20'N, 84°43'W, 28 February 1990, *Bello, E.* 1959 (INB); colinas de San Pedro de San Ramón, 1075–1300 m, 29 October 1925, *Brenes, A.M.* 4574 (CR, F); Piedades au San Pedro de San Ramón, 1100 m, 26 October 1925, *Brenes, A.M.* 4559 (F); San Pedro et a Piedades, San Pedro de San Ramón, 1075 m, 22 June 1926, *Brenes, A.M.* 4881 (CR, F); La Palma de San Pedro de San Ramón, 1075–1100 m, 24 September 1926, *Brenes, A.M.* 4977 (F); La Palma de San Pedro de San Ramón, 1050–1100 m, 7 December 1926, *Brenes, A.M.* 5187 (F); La Palma de San Pedro de San Ramón, 1050 m, 17 July 1927, *Brenes, A.M.* 5606 (CR, F); entre Guachipelín y Volcán de la Vieja, 26 May 1932, *Brenes, A.M.* 15524 (CR); Río Jesus y el Picacho del Mondongo,

Santiago de San Pedro de San Ramón, 1 January 1937, *Brenes, A.M.* 21847 (F, NY); E. of Río San Rafael and S. of hot springs, W. of La Marina, 500 m, 10°23'N, 84°23'W, 19 May 1968, *Burger, W.C. & Stolze, R.G.* 5025 (F, NY); San Rafael de San Ramón, 24 February 1945, *Echeverría C., J.A.* 4128 (CR, F); Reserva Forestal de San Ramón, 870–1120 m, 10°13'15"N, 84°36'00"W, 29 April 1993, *Flores, K.* 98 (INB); Finca Buen Amigo, San Luis Monteverde, 1100 m, 10°16'20"N, 84°49'30"W, 29 June 1993, *Fuentes, Z.* 393 (INB); Cerro Chato, 23 April 1990, *Funk, V.A.* et al. 10825 (CR); Río Chiquito, c. 40 km road to Upala, 800 m, October 1982, *Gómez, L.D.* 18614 (BM, MO); slopes of Miravalles, above Bijagua, c. 1500 m, November 1982, *Gómez, L.D.* et al. 19180 (MO); Alto Santiago de San Ramón, 1200 m, 27 September 1980, *Gómez-Laurito, J.* 5888 (CR); Río San Lorencito, límite E. de la Reserva Forestal San Ramón, 800–900 m, 23 February 1984, *Gómez-Laurito, J.* 9923 (CR, F); Reserva Forestal San Ramon, 900–1200 m, 10°13'N, 84°37'W, 12–15 March 1987, *Gómez-Laurito, J.* 11394 (F); Monteverde, Peñas Blancas river valley, 800 m, 10°20'N, 84°43'W, 7 October 1986, *Haber, W. & Cruz, E.* 5672 (CR); Reserva Forestal San Ramón, río San Lorencito, 850–1100 m, 10°18'N, 84°34'W, 30 May–1 June 1986, *Hammel, B.* et al. 15293 (CR, MO); Bijagua, El Pilón, cabeceras del Río Celeste, 700 m, 10°49'N, 84°27'W, 16 November 1987, *Herrera, G.* 297 (US); Finca La Constancia, Buena Vista, San Carlos, 850 m, 3 March 1963, *Jiménez, A.* 423 (CR, F, NY); San Ramón, N. of town towards Los Angeles, 1150 m, 27 January 1964, *Lems, K.* 01–4 (NY); near Río San Rafael, 2 km W. of La Marina, llanura de San Carlos, 550 m, 17 February 1966, *Molina R., A.* et al. 17339 (BM, F, MO); Estación San Ramón, Parque Nacional Guanacaste, 550 m, 10°52'55"N, 85°24'05"W, 27 January 1995, *Quesada, F.* 186 (INB); 5 km N. de Lago Arenal, c. Lago Cote, sendero Ilusión, 800–1000 m, 10°35'20"N, 84°55'50"W, 14 October 1994, *Sánchez, J.* 356 (CR); Reserva Forestal de San Ramón, 870–1120 m, 10°13'15"N, 84°36'00"W, 1 March 1992, *Schmidt, E.* 83 (INB); Alfaró Ruiz, Guadalupe de Zarcero, 1625 m, 30 May 1938, *Smith, A.* H692 (MO, NY); Alfaró Ruiz, Guadalupe de Zarcero, 1625 m, 30 May 1938, *Smith, A.* NY692 (NY); San Carlos, Villa Quesada, 850 m, 31 March 1939, *Smith, A.* 1880 (F, MO, NY); San Pedro, San Ramón, 1300 m, April 1913, *Tonduz, A.* 17656 (BM, CR, US); 2 km from Bijagua on road to San Miguel, along road from Cañas to Upala, 470 m, 7 November 1975, *Utley*

- & Utley 3218 (F). **Cartago**: vicinity of Pejivalle, 600–850 m, January 1940, *Skutch, A.F.* 4581 (F, MO, NY, US). **Guanacaste**: Estación Cacao, Parque Nacional Guanacaste, 1100 m, 10°55'32"N, 85°28'02"W, 2 June 1990, *Acevedo, D.* 5, *Alvarado, C.* 15 (CR); Tilarán, March 1942, *Acosta, M.A.* 14 (CR); Estación Cacao, Parque Nacional Guanacaste, 1100 m, 10°55'32"N, 85°28'02"W, 23 September 1994, *Alverson, W.* & *Christy, C.M.* 2769 (CR); Area de Conservación Guanacaste, biological station on W. flank of Volcán Cacao, 1100 m, c. 10°55'32"N, 85°28'02"W, 23 July 1994, *Alverson, W.S.* & *Flores, T.S.* 3105 (CR, MO); Abangares, la Sierra y Río Cañas, 1000 m, 10°22'00"N, 84°55'00"W, *Bello, E.* 4959 (INB); E. slopes of Volcán Miravalles (Cerro la Giganta), above town of Río Naranjo, c. 800 m, 10°42'N, 85°07'W, 8 April 1973, *Burger, W.C.* & *Gentry, J.L.* 9143 (F); Estación Cacao, Parque Nacional Guanacaste, 1100 m, 10°55'32"N, 85°28'02"W, 29 October 1989, *Chacón, I.* 2520 (CR); Parque Nacional Guanacaste, Estación Cacao, Liberia, 1100 m, 10°55'45"N, 85°28'15"W, 18 November 1990, *Chávez, C.* 341 (MO); Estación Maritza, Parque Nacional Guanacaste, 600 m, 10°57'40"N, 85°29'40"W, 29 August 1990, *Carballo, G.* 215 (CR); Estación Maritza, Parque Nacional Guanacaste, 600 m, 10°57'40"N, 85°29'40"W, 29 August 1990, *Chavarría, U.* 178 (CR); Estación Cacao, Parque Nacional Guanacaste, 1100 m, 10°55'32"N, 85°28'02"W, 8 February 1995, *Chinchilla* 33 (INB); Parque Nacional Rincón de la Vieja, SE slopes of Volcán Santa María, above Estación Hacienda Santa María, 900–1200 m, 10°47'N, 85°18'W, 27–28 January 1983, *Davidse, G.* et al. 13369 (CR, MO); Estación Cacao, Parque Nacional Guanacaste, 1100 m, 10°55'32"N, 85°28'02"W, 9 February 1995, *Gamboá, B.* 51 (INB); Parque Nacional Rincón de la Vieja, Liberia, Cordillera Guanacaste, Estación Las Pailas, sendero Río Blanco, 1200 m, 10°47'50"N, 85°21'10"W, 5 November 1992, *García, D.* 32 (MO); Rincón de la Vieja National Park, Puesto Santa María, path to Mirador, c. 800 m, 27 January 1983, *Garwood, N.* et al. 717 (BM, F, MO, NY); ridges to N. of Río Las Flores, c. 1 km E. of Río Tenorio, hacienda Montezuma, 475–500 m, 10°40.5'N, 85°04.5'W, 24 January 1985, *Grayum, M.* & *Herrera, G.* 4854 (CR, MEXU); S. & E. slopes of ridge SE of Quebrada Zopilote, lower SE slope of Volcán Santa María, 850–940 m, 10°46.5'N, 85°18'W, 25 January 1986, *Grayum, M.* et al. 6243 (CR, NY); Estación Cacao, Parque Nacional Guanacaste, 1100 m, 10°55'32"N, 85°28'02"W, 12 July 1996, *González, J.* 1101 (INB); Parque Nacional Guanacaste, estación Maritza, sendero a la cima de Volcán Orosí, 600 m, 10°57.6'N, 85°29.6'W, 2 July 1989, *IINBio* 142 (MO); Parque Nacional Guanacaste, Estación Maritza, sendero a la cima del Volcán Cacao, 600 m, 10°57.6'N, 85°29.6'W, 3 July 1989, *IINBio* 119 (MO); Parque Nacional Rincón de la Vieja, 900–1200 m, 8 May 1972, *Janzen, D.H.* 401 (CR); El Silencio, Tilarán, 850 m, *Jiménez, A.* s.n. (F); Monteverde, 1450 m, 7 February 1966, *Kern, P.M.* 801 (NY); Santa Elena-Tilarán road, c. 2 km from Santa Elena, c. 1300 m, 17 February 1984, *Khan, R.* et al. 1096 (BM, MO); Estación Cacao, Parque Nacional Guanacaste, 1100 m, 10°55'32"N, 85°28'02"W, 30 May–1 June 1990, *Maas, P.J.M.* 18 (CR); Volcán Tenorio, 1200 m, 8 January 1993, *Quirós, M.* 1076a (CR); Estación Maritza, Parque Nacional Guanacaste, 600 m, 10°57'40"N, 85°29'40"W, 18 August 1993, *Ramírez, R.* 53 (INB); Parque Nacional Rincón de la Vieja, sendero de la Toma de Agua, a 3 km de la Estación, 1000 m, 10°46'05"N, 85°17'40"W, 17 September 1990, *Rivera, G.* 628 (MO); Parque Nacional Rincón de la Vieja, Estación Biológica Santa María, track to Agua Fria, 780 m, 10°46'N, 85°17'W, 19 June 1996, *Short, M.J.* & *Stafford, P.J.* 151 (BM, CR, INB); Parque Nacional Guanacaste, Volcán Cacao, 1000 m, 30 July 1987, *Smith, J.F.* & *Frost, E.* 425 (CR, F); Estación Maritza, Parque Nacional Guanacaste, 600 m, 10°57'40"N, 85°29'40"W, 31 August 1990, *Solomon, J.* 19111 (INB); El Silencio, near Tilarán, c. 750 m, 13 January 1926, *Standley, P.C.* & *Valerio, J.* 44596, 44602 (US); Quebrada Serena, SE of Tilarán, c. 700 m, 27 January 1926, *Standley, P.C.* & *Valerio, J.* 46178, 46196 (US); Naranjos Agrios, 600–700 m, 29 January 1926, *Standley, P.C.* & *Valerio, J.* 46495 (US); 3 km N. of Río Naranjo, near Continental Divide, 500 m, 10°52'N, 85°04'W, 5 January 1975, *Taylor, J.* 18103 (F); Tilarán, 20 July 1920, *Valerio, J.* 18 (US). **Limón**: 7 km SW of Bribri, 100–250 m, 4 May 1983, *Gómez, L.D.* et al. 20430 (MO); vicinity of Guapiles, 300–500 m, 12–13 March 1924, *Standley, P.C.* 37331 (F, US); 6 miles inland from mouth of Estrella River, 19 April 1952, *Siork, H.E.* 4613 (NY). **Puntarenas**: Cerro Pando, ridges above Río Cotón and Río Negro, 1000–1800 m, 8°55'N, 82°45'W, 19–21 February 1982, *Barringer, K.* & *Gómez, L.D.* 1619 (F); Finca Las Cruces, San Vito de Java, c. 1300 m, 23 May 1971, *Burch, D.* 4616 (F); just E. of Monteverde on Pacific watershed, 1300–1450 m, 10°18'N, 84°48'W, 29 October–2 November 1975, *Burger, W.C.* & *Baker, R.* 9599, 9619 (F, MO); c. 2 km SE of Monteverde, on Pacific watershed, 1400 m, 10°18'N, 84°48'W, 18–21 March 1973, *Burger, W.C.* & *Gentry, J.L.* 8765 (F); E. of Las Cruces and 5–6 km S. of San Vito, property of Mr Robert Wilson, 1100–1200 m, 8°47'N, 82°58'W, 15–16 January 1967, *Burger, W.C.* & *Matta U., G.* 4464 (BM, F, MO); E. of Quepos, Pacific slope of Talamanca, 150–250 m, 9°29'N, 84°03'W, 19 February 1977, *Burger, W.C.* et al. 10607 (F); just E. of Monteverde on Pacific watershed, 1300–1450 m, 10°18'N, 84°48'W, 24 February 1977, *Burger, W.C.* et al. 10706, 10847 (F, MO, NY); foothills of Cordillera de Talamanca, vicinity of Helechales, along Río Guineal, 1100–1200 m, 9°04'30"N, 83°05'W, 29 March 1984, *Davidse, G.* & *Herrera Ch., G.* 26242 (F); Cordillera de Talamanca, area around Río Canasta, 9.5 airlines miles NW of Aguas Caliente, between Cerro Frantzius & Cerro Pittier, 1500–1600 m, 9°02'N, 82°59'W, 6 September 1984, *Davidse, G.* et al. 28398 (MO); Monteverde, comunidad, 1400–1500 m, 28 November 1976, *Dryer, V.* 1004 (MO), 7 February 1977, *Dryer, V.* 1167 (F); San Luis, Monteverde, 1100 m, 10°16'33"N, 84°47'45"W, 17 December 1992, *Fuentes, Z.* et al. 67 (INB, MO); Monteverde, lower montane forest, 1400 m, 14 July 1990, *Gentry, A.* et al. 71672 (MO); La Tigra, Las Mellizas, 1280 m, August 1983, *Gómez, L.D.* et al. 21971 (BM, MO); San Luis, Monteverde, 1100 m, 10°16'33"N, 84°47'45"W, 10 September 1994, *González, J.* 400 (INB); Monteverde, 1300–1450 m, 10°18'N, 84°48'W, 10 June 1985, *Grayum, M.* & *Hammel, B.* 5389 (CR); Monteverde, lower community, 1350–1400 m, 25 February 1985, *Haber, W.A.* 1376 (MO), 29 August 1985, *Haber, W.* et al. 2532 (CR), 18 December 1988, *Haber, W.* 8905 (INB), 20 October 1990, *Haber, W.* 10089 (INB); Monteverde, lower community, 1350 m, 10°20'N, 84°50'W, 20 January 1986, *Haber, W.A.* & *Wolf, J.A.* 4284 (MEXU, MO); near Cerro Chivo, S. of Coton River, 1600–1800 m, 17 July 1983, *Hazlett, D.L.* 5240 (F); road from Pensión Flor March to Monteverde Cloud Forest Reserve, 1400–1500 m, 10°18'N, 84°48'W, 8 January 1987, *Hill, S.R.* et al. 17686 (NY); just E. of Monteverde on Pacific watershed, 1300–1450 m, 10°18'N, 84°48'W, 21 July 1977, *Lawton, R.O.* 1201 (F); Monteverde Cloud Forest Reserve, Hoge's Wood, 1320 m, 18 July 1979, *Koptur, S.* 155 (MO). **San José**: Cantón de Acosta, Zona Protectora Cerros de Escazú, cuenca del Río Tabarcia, falda W. de Cerro Cedral, por sendero a Londres, 1600–1700 m, 9°50'52"N, 84°04'40"W, 14 May 1994, *Morales, J.F.* 2758 (MO).
- PANAMA. Cocle**: foot of Cerro Pilón, above valle de Anton, 2000 ft, 28 March 1969, *Porter, D.M.* et al. 4676 (MO). **Colón**: 26 km from Transisthmica Highway on Santa Rita Ridge, NW facing slopes, 500 m, 9°26'N, 79°57'W, 21 October 1981, *Knapp, S.* et al. 1711 (MO). **Chiriquí**: trail from Paso Ancho to Monte Lirio, upper valley of Río Chiriquí Viejo, 1500–2000 m, 16 January 1939, *Allen, P.H.* 1589 (F, MO); Ojo de Agua, property of Ratibor Hartmann, vicinity of Santa Clara (between Volcán & Río Sereno), 1520 m, 8°51'N, 82°45'W, 17 June 1987, *Croat, T.B.* 66286 (US); road from Volcán to Río Sereno, 16 km from Río Sereno, 29 June 1977, *Folsom, J.P.* 4048 (MO x2); Hartman finca, near Cerro Pando, c. 2000–2200 m, 8°52'N, 82°45'W, 22 August 1982, *Hamilton, C.* et al. 816 (MO x2); near Costa Rican border, 13 km by road S. of Río Sereno, Finca Hartmann, 1400–1500 m, 8°50'N, 82°45'W, 14 May 1991, *Hensold, N.* & *McPherson, G.* 1050 (MO, US); lower slopes of Cerro Pelota, 1800–2000 m, 8°53'N, 82°43'W, 10 October 1981, *Knapp, S.* 1481 (MO); forests and edges of cafetales of Finca Ojo de Agua, 1300 m, 8°51'N, 82°46'W, 14 October 1981, *Knapp, S.* 1578 (MO); Santa Clara region, 27 km NW of El Hato del Volcán, on coffee finca of Ratibor Hartmann called Ojo de Agua, 5000–5300 ft, 18 July 1975, *Mori, S.* & *Bolten, A.* 7215 (MO). **Panama**: along trail to top of Cerro Campana, 13 October 1974, *Mori, S.* & *Kallunki, J.* 2463 (MO); Cerro Campana, c. 10 km SW of Capira, on trail to summit, 870–1000 m, 7 December 1974, *Mori, S.* & *Kallunki, J.* 3565 (MO). **Veraguas**: vicinity of Escuela Agricultura Alto Piedra, near Santa Fe along trail to top of Cerro Tute, 2800–3200 ft, 3 April 1980, *Antonio, T.* 4003 (MO); 0.6 mile beyond Escuela Agrícola Alto Piedra, 730 m, 4 April 1976, *Croat, T.B.* & *Folsom, J.P.* 34069 (NY); above Santa Fe beyond Escuela Agrícola Alto Piedra, 1.8 miles beyond fork in road on Pacific slope, side of Cerro Tute, 5 April 1976, *Croat, T.B.* 34199 (MO); Cerro Tute, W. of Santa Fe, beyond Alto de Piedra, 600–800 m, c. 8°30'N, 81°07'W, 18 October 1985, *McPherson, G.* 7188 (MEXU); NW of Santa Fe, 1 km from Escuela Agrícola Alto de Piedra, slopes of Cerro Tute, 24 February 1975, *Mori, S.* & *Kallunki, J.* 4778 (MO, NY); along steep trail to summit of Cerro Tute c. 3 km above Escuela Agrícola Alto Piedra near Santa Fe, 2800–3200 ft, 4 January 1981, *Systema, K.* & *Antonio, T.* 3033 (MO).

Specimens here described as *Heisteria povedae* were called *H. acuminata* (Humb. & Bonpl.) Engl. by Burger (1983). He recognized



them as different to *H. macrophylla* Oerst. (s.s.), differentiating them by habitat: with plants of *H. macrophylla* s.s. growing in wet lowland forests and those of *H. acuminata* (sensu Burger) growing in drier more upland formations. Sleumer (1984) lumped these two taxa, stating however 'Specimens with leaves smaller than usual occur in Panama exclusively on its Pacific side'. The past decades of collecting, particularly in Costa Rica, have produced abundant specimens showing these two entities as distinct. *Heisteria povedae* is generally (as recognized by Burger) a plant of higher elevation, somewhat drier forests, than *H. macrophylla* s.s., which appears to be confined to the lowland rainforests on the Atlantic slope near the Costa Rica/Nicaragua border. The leaves of *H. povedae* are usually (but not always) smaller than those of *H. macrophylla* s.s., and dry a pale olive green with prominent yellowish venation. The stems of *H. povedae* are strongly flattened and winged at the tips, with the wings persisting onto quite large branchlets, and are markedly white punctulate or striate. Stems of *H. macrophylla* s.s. can be slightly winged when very small, but the angles rarely persist beyond the first two leaves.

Specimens from Limón province in Costa Rica are found within the distribution range of *Heisteria macrophylla* s.s. and may represent hybrids with that species. They have the typical yellowish venation, winged stems and subglobose fruit of *H. povedae*, but the leaves are generally larger than those from Pacific slope specimens. Future collecting and work on plants in the field will help to clarify the status of these populations.

*Heisteria acuminata*, the other widespread species of *Heisteria* in Mesoamerica, especially in Panama, differs from *H. povedae* in its ellipsoid fruit, and longer, thinner fruiting pedicels. The leaves of *H. acuminata* generally dry a darker greenish brown than those of *H. povedae*, and the branchlets are not markedly winged. *Heisteria acuminata* occurs in lowland forests from the Osa peninsula in Costa Rica to northern South America, and has been known in Mesoamerica as *H. longipes* Standl. or *H. cyanocarpa* Poepp. Material of *H. acuminata* from Popayán in southern Colombia may not match material from Mesoamerica (Jørgensen, pers. comm.), and the correct name for the material currently known as *H. acuminata* in Mesoamerica may change in future.

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